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BETIOKY CHILD SURVIVAL PROJECT

MIDTERM EVALUATION REPORT

(1998 – 2000)



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Table of Contents

I. Executive Summary	
1. Description of the project	
2. Project Goals and Objectives	
3. Main accomplishments and Progress of the Project	
4. Main constraints, problems and areas in need of further attention	
5. Summary of capacity-building effects and sustainability of the program	
6. Principle recommendations resulting from this evaluation	
II. Assessment of the Progress Toward Achieving of Project Objectives	1
A. TECHNICAL APPROACH	1
1. Overview of the Project	1
2. Progress Report by Intervention Area	4
3. New Tools, Approaches, and Special Studies	18
B. CROSS CUTTING APPROACH	21
1. Community Mobilization	21
2. Behavioral Change Communication	23
3. Capacity Building Approach	24
4. Sustainability Strategy	26
III. Project Management	27
A. PLANNING	27
B. STAFF TRAINING	27
C. SUPERVISION OF PROGRAM STAFF	28
D. HUMAN RESOURCES AND STAFF MANAGEMENT	29
E. FINANCIAL MANAGEMENT	29
F. LOGISTICS	30
G. INFORMATION MANAGEMENT	31
H. TECHNICAL AND ADMINISTRATIVE SUPPORT	31
IV. Conclusions and Recommendations	32
V. Result Highlight	38
VI. The Action Plan	39

VII. Annexes

A. BASELINE INFORMATION FROM THE DIP

1. Field Program summary
2. Project Goals and Objectives
3. Program Location
4. Program design
5. Partnerships
6. Health Information System

B. TEAM MEMBERS AND THEIR TITLES

C. ASSESSMENT METHODOLOGY

D. LIST OF PERSONS INTERVIEWED AND CONTACTED

E. DISKETTE WITH ELECTRONIC COPY OF THE REPORT

F. SPECIAL REPORTS

1. Non-Malaria Fever Study
2. *Mutuelle de Crédit d' Ankazomanga Ouest*

Acronyms and Abbreviations

AIDS	Acquired Immuno-Deficiency Syndrome
ANC	Antenatal Care
APPROPOP	Appui au Programme de Population (USAID Bilateral Family Planning project)
ARI	Acute Respiratory Infections
ASB	Agent sanitaire de base
ASBC	Agent sanitaire de base communautaire
BASICS	Basic Support for Institutionalizing Child Survival Project (USAID)
BCG	Bacillus of Calmette and Guérin Vaccine
BHR/PVC	Bureau for Humanitarian Response/Private Voluntary Cooperation
CBD	Community Based Distribution
CDD	Control of Diarrheal Diseases
CHA	Community Health Association
CHD	Centre Hospitalier de District (Hospital, MINSAN)
CHV	Community Health Volunteer
CMR	Child Mortality Rate
CPR	Contraceptive Prevalence Rate
CS	Child Survival
CSB	Centre de Sante de Base (Basic Health Center, MINSAN)
CSSP	Child Survival Support Program, The Johns Hopkins University
DHS	Demographic and Health Survey
DIP	Detailed Implementation Plan
DIRDS	Département Interrégional du Développement Sanitaire (Interregional Health Development Department)
DPT	Diphtheria, Pertussis and Tetanus Vaccine
ENDS	Enquête Nationale Démographique et Sanitaire (DHS)
ENSEF	Women and Children's Health Situation Survey (UNICEF)
EPI	Expanded Programme of Immunization
FGD	Focus Group Discussion
FIB/IB	Fahasalman Iraisan Baohaka/Initiative Bamako (Bamako Initiative, UNICEF)
FRAM	Association of Parents of School Children
GIS	Geographic Information System
GMAAD	Groupe Mahafaly pour l'Alphabétisation des Adultes et au Développement des Paysans (<i>The Mahafaly Group for Rural Development and Literacy</i> , Local NGO)
GNP	Gross National Product
GOM	Government of Madagascar
HIS	Health Information System
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HSA	Health Situation Analysis
IEC	Information, Education, and Communication
IMCI	Integrated Management of Childhood Illnesses (WHO)
IRS	Inspecteur Régionale de Santé (Regional Health Office)
IST	In-Service Training
IMR	Infant Mortality Rate
KPC	Knowledge, Practice, and Coverage
LAM	Lactational Amenorrhea Method
MCDI	Medical Care Development International

Medical Care Development International-Mid-term Evaluation Report
Child Survival Project Betioky-Sud Madagascar

MCH	Maternal and Child Health
MEN	Ministry of Education
MIS	Management Information System
MINSAN	Ministry of Health
MMR	Maternal Mortality Ratio
MSF	Medecin Sans Frontieres
NGO	Non Governmental Organization
ODIVA	ORS produced in Madagascar
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
PCM	Pneumonia Case Management
PEV	Programme Elargi de Vaccination (EPI)
PHC	Primary Health Care
PRITECH	Technologies for Primary Health Care Project (USAID)
PSI	Population Services International
PVO	Private Voluntary Organization
SAF-FJKM	FJKM Medical System (Local NGO)
SCM	Standard Case Management
SOMARC	Contraceptives Social Marketing Project (USAID)
SPSS®	Statistical Package for the Social Sciences®
SSD	Service Santé de District (District Health Office)
STI	Sexually Transmitted Infections
TBA	Traditional Birth Attendant
TFR	Total Fertility Rate
TOST	Training of Survey Trainers
TOT	Training of Trainers
TT	Tetanus Toxoid
UNFPA/FNUAP	United Nations Fund for Population Assistance
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VEMIMA	Vehivevy Miara Mandroso (<i>Women in Development</i> , Local NGO)
WHO	World Health Organization
WRA	Women of Reproductive Age

I. Executive Summary

1. Description of the program

MCDI's Child Survival Project in Betioky-Sud District, Madagascar, provides technical support to the Betioky-Sud District Health Services (SSD) in the intervention areas of immunization, child spacing and reproductive health, breast-feeding, diarrheal diseases, and IMCI. The program also supports crosscutting approaches such as social mobilization, behavior change communication, community financing, and strengthening of capacity building and program management.

- Target population: children under 5 and women of reproductive age. The project serves a beneficiary population of 3,124 children 0-11 months, 12,536 children 12-60 months, and 16,966 women of reproductive age, for a total beneficiary population of 32,626.
- Area of intervention: The project site is located in Betioky-Sud District in Toliary Region in southwestern Madagascar. The *actual* project area consists of 11 communes and 71 fokontanys (groupings of 5-6 villages).
- Project duration: four years (October 1998 to September 2002).

2. Program goals and objectives

- Program Goal: to reduce mortality and morbidity rates of children under five and improve the health status of women of reproductive age.
- Strategic objectives:
 - Increase the use of health services and promote health behavior change particularly for the focus child survival interventions.
 - Increase access to quality health care
 - Increase community participation that leads to health status improvement
 - Increase the management capacity of the district health services

3. Main accomplishments and progress of the program

Indicators	Baseline	Objective at EOP As Defined in DIP	MTE Survey Results
<i>Breast-feeding:</i>			
% children < 6 that are exclusive breast-fed	11%	25%	42%
% children < 23 mo with diarrhea during previous 2 weeks and breastfed the same or more than usual	61%	80%	65%
% mother breast feeding baby 1 hour after birth	29%	40%	35%
<i>Immunizations:</i>			
% Children between 12 and 23 mo fully immunized	9%	30%	21%
% Children between 12 and 23 mo with immunized interrupted between DTCP1 and DTCP3	25%	10%	7%
% of mothers given TT2 or more	21%	40%	16%
<i>Birth Spacing:</i>			
% of mother using a modern contraceptive mean	9%	20%	15%
% of mothers able to name one site where birth spacing counseling is available	No baseline data	56%	25%

**Medical Care Development International-Mid-term Evaluation
Report Child Survival Project Betioky-Sud Madagascar**

Indicators	Baseline	Objective at EOP As Defined in DIP	MTE Survey Results
<i>Diarrheal Disease Control:</i>			
% of mothers of children aged 0-23 months who know to seek advice or treatment when their child has had prolonged diarrhea (more than 14 days) or bloody diarrhea	12%	50%	59%
% of children 0-23 months who had diarrhea in the past two weeks who were given more than usual or the same amount as usual of breast milk during the episode	61%	80%	65%
% of children 0-23 months who had diarrhea in the past two weeks and were given more than the usual amount of fluids during the episode	53%	70%	61%

Note: Revisions to objectives based on the MTE survey results will be addressed in the annual report.

The project has successfully surpassed the objectives set up in the original Detailed Implementation Plan (DIP).

In addition to the activities currently being undertaken by the project, there is also community support in the following areas:

- Community volunteers: community volunteers, mobilized by the project and trained and supervised by health workers, help raise awareness in their communities about the benefits of immunization, diarrheal disease control, birth spacing, and exclusive breast-feeding. This has been one of the most successful strategies implemented by the Child Survival project along with the Child-to-Child peer education approach in schools.
- Inter-sectorial partnership: the Child Survival Program has put in place an Inter-sectorial Committee consisting of local authorities, the district health services, schools, and women's associations to provide support to the program as well as to assist in the combating of recent cholera outbreaks in the district of Betioky.
- Credit-Insurance Plan: this pilot community-financing scheme in Ankazomango is managed by community members and used to pay for health services expenses for members by providing them credit.
- NGO partners: strengthen NGO partners, particularly in capacity-building.

4. Main constraints, problems, and areas in need of further attention

Frequent changes in district-level MOH personnel (due to reassignments) have adversely affected the CS project. Lack of long-term continuity in MOH personnel has resulted in misunderstandings and poor cooperation between the project and the District Health Services. For example, the new local health authorities are not in complete agreement with the program concerning community health volunteers and the credit-insurance plan that is being piloted to help create more financially sustainable community health services. The former district Health Director fully supported and endorsed these interventions.

Negotiations are underway between the project and the MOH in order to have access to the Primary Health Centers. Maintaining and supporting the action of community volunteers is of utmost importance to promote behavioral change. Inter-sectorial partnership is another means of promoting community communication and requires support. A clear and sound collaboration between the District Health Services and MCDI represents a major challenge for the continuation

of the project. Program actions are also hindered by logistical problems due to the isolation and remoteness of the project site.

5. Summary of capacity-building effects and sustainability of the program

MCDI's CS Project has established good working relationships with most local partners (schools, decentralized units of rural activity, local government, women associations, and Betioky district administrative authorities) with whom it created 8 associations which are now active, implemented a Child-to-Child strategy, mobilized and trained village activity cells (VACs) and community-based health workers, and fostered a horizontal approach to ensure sustainability. Improving the quality of health care and strengthening and training health workers are among MCDI/CSP targets to accomplish this goal. To encourage long-term sustainability and to facilitate the beneficiaries' use of these newly strengthened health care services, MCDI developed a successful community-based financing scheme that provides credit to members in need of funds to pay for health services. Sustainability is also being promoted through the project's capacity building efforts targeting local NGOs: women's associations and community-based groups benefit from training in BCC and health services related activities. On the other hand, the project does not currently enjoy the most effective collaboration with the SSD, and recognizes this as a challenge to resolve in the immediate future.

6. Principle recommendations resulting from this evaluation

(1) To the extent possible, the principal MOH counterpart should be in place through the life of the project. Rapid turnover at project level threatens collaboration as well as the community; (2) promote an awareness of specific successes and innovations of the project, such as the community credit-insurance plan, by offering presentations and workshops in order to replicate the initiative in other regions and countries; (3) further develop partnerships within and between community structures; (4) increase social mobilization and support of project ownership by local authorities and the community; and (5) using MTE findings to revise the project's indicators.

II. ASSESSMENT OF PROGRESS TOWARD ACHIEVING PROJECT OBJECTIVES

A. TECHNICAL APPROACH

1. Overview Of the Project

MCDI's Child Survival Project Betioky-Sud, Madagascar began October 1, 1998 and is scheduled to end September 30, 2002. The project is located in Betioky-Sud District in the Toliary Region of southwestern Madagascar. The district occupies a total area of 10,070 square kilometers organized into 19 communes and 152 fokontanys. The *actual* project area consists of 11 communes and 71 fokontanys.¹

The Betioky-Sud District encompasses the area south of the River Onilahy, which forms a natural boundary between the northern third and southern two-thirds of the district. The northern third of the district is actually closer to the referral center of the regional capital of Toliary, and is served by a more sophisticated hospital at Beza Tanosy. To date, working south of the river ensures individuals access to health facilities throughout the year that are cut off from Toliary, particularly the most isolated facilities in the extreme south of the district, given that river flooding during the rainy season makes northern parts of the district inaccessible by any means of transport.

The *goal* of the CS project is to reduce morbidity and mortality among children 5 and younger and among women of reproductive age (WRA) by improving knowledge, practices, and health care coverage. The project serves a beneficiary population of 3,124 children 0-11 months, 12,536 children 12-60 months, and 16,966 women of reproductive age, for a total beneficiary population of 32,626. It must be noted that there is evidence from data of the Expanded Program of Immunization (EPI) program that these are very conservative population estimates.²

This CS project is a follow-on to a two-year (October 1996-September 1998) BHR/PVC Child Survival Planning Grant which was designed to strengthen Ministry of Health (MOH) services to children under the age of 5 years and WRAs. Under the two-year Planning Grant, first year activities were laid out by MCDI in the Annual Workplan submitted to the BHR/PVC Office in January 1997. First-year activities included: an in-depth analysis of the local health situation; establishment of a strong partnership with local counterparts; jointly planning for and beginning the implementation of a limited set of child survival intervention activities; and submittal of the First Annual Report in November 1997.

¹ Betioky-Sud Health District (SSD) is one of 112 in the country. It is sub-divided administratively into communes headed by a Mayor, and as stated, there are a total of 19 communes in the district. The communes are further sub-divided into fokontanys, each headed by a President. Each fokontany, in turn, consists of villages and hamlets, typically 5-6 per fokontany.

² Ministry of Health (MINSAN) population data was generated from arbitrary population increases calculated on the basis of the 1992 census. Extensive migration of populations in the district and the Toliary region appear to have led to substantial increases in the number of potential direct beneficiaries.

**Medical Care Development International-Mid-term Evaluation
Report Child Survival Project Betioky-Sud Madagascar**

Based on guidance from BHR/PVC, second-year Planning Grant activities were designed to lay the foundation for the full-scale launching of selected interventions during a follow-on project. Briefly, second-year activities included: strengthening institutional linkages and partnerships; finalization of the intervention strategy and the launching of a limited set of activities; working with communities in the catchment area of the two community financing pilot schemes to establish Community Health Associations (CHAs) and Management Committees (MCs); and further training and skills development of MCDI field staff in program management, child survival interventions, and training of survey trainers.

A Detailed Implementation Plan (DIP) was submitted to BHR/PVC in December 1997 in lieu of an application for four years of project funding. The project design for the DIP was developed based on discussions with USAID, MOH, and international and local NGOs. The project was approved for BHR/PVC funding and implementation activities under the current four-year CS project began in October 1998.

To achieve project goals, MCDI employs a three pronged strategy which includes:

- i. a community focus which seeks to strengthen the level of health capacity in the community through the training and supervision of 142 Community Health Volunteers (CHVs) who are supervised by MOH CHD/CSB (Centre Hospitalier de District/Centry de Santé de Base) staff and monitored by project field staff; the project works with local groups and individuals in health promotion covering such topics as: appropriate breast-feeding practices, follow-up of vaccination defaulters as well as community-based distribution of ORS sachets and contraceptives, improving mothers' knowledge of home-based management of the selected childhood illnesses, cooperation with and skills development of such local NGOs as VEMIMA and GMAAD, and the introduction of pilot community financing schemes;
- ii. institutional strengthening of the MOH by improving the CSBs service delivery and demand creation capacities through technical and management training, supply and maintenance of the cold chain and improved provision of essential drugs, iron folate and vitamin A supplements, ORS sachets, and contraceptives, and assistance with improved supervision by the District Health Services; improving the operational capacity of local NGO partners.
- iii. synergy with other area donor projects and activities such as: UNICEF for the FIB/IB (Bamako Initiative, UNICEF) sites and provision of vaccines and essential drugs; BASICS, APPROPOP, and UNFPA for IEC materials, training modules, and contraceptives supply (UNFPA); MSF for limited pharmaceuticals supply; the FID project for rehabilitation of health facilities, and USAID's CS Program Coordination Committee for exchange of technical knowledge and experience with our partners.

Following discussions and approval by the MOH, four areas of intervention were ultimately selected as the focus for project activities: immunizations, breast-feeding promotion, control of diarrheal diseases, and child spacing; in addition, the project supports the introduction of IMCI

activities in the district. A number of factors were taken into account to determine these areas of intervention. These factors include:

- epidemiological data — UNICEF notes that the main causes of infant mortality are Acute Respiratory Infections (ARI), diarrheal disease, and malaria and the leading causes of infant morbidity are ARI, diarrheal diseases, malaria, and malnutrition. The BASICS Country Activity Plan 1994–1996 reported the leading causes of overall mortality as malaria, malnutrition, diarrheal diseases, and ARI, with neonatal tetanus as one of the leading causes of peri-natal mortality;
- a careful analysis of the data generated from the KPC Baseline Survey and other survey instruments associated with the Health Situation Analysis (HAS) including the Health Facility Assessment HFA);
- the ongoing dialogue with district and higher levels of MOH staff that commenced with MCDI's participation in the elaboration of the 1997 District Health Action Plan for Betioky-Sud District;
- consultations with UNFPA, UNICEF, The World Bank, Medecin Sans Frontiers, the BASICS Project, and local NGOs VEMINA and GMAAD; and
- focus group discussions (FGDs) with women and men at the village level, plus key informant interviews.

Immunization was selected as a priority because of the noticeably low level of full coverage in children under age two in the project district as revealed by the KPC Baseline survey. MOH coverage estimates have not been accurate and official population estimates have failed to take into account substantial in-migration to the district. This intervention primarily targets the population of infants under age one as per current MOH and UNICEF policies. MCDI also proposed to support stop-gap coverage for children between 12-23 months and has ensured provision of TT vaccinations to WRAs as per MOH protocols.

Breast-feeding was seen a priority for the district given the isolation of communities and the weight given to negative practices and beliefs. The importance of providing a solid foundation for infant growth and development through exclusive breast-feeding was seen as essential, as gathered from the responses provided by the FGDs. Support for effective complementary food practices was also seen as extremely important for reducing the prevalence of malnutrition in children 5-12 months of age. The high risk population for this intervention is children 0-23 months. This intervention targets WRAs and persons influential in household health and feeding decisions, i.e., fathers and mothers-in-law. The project works with community health volunteers (CHVs), including *matrones* and traditional healers at the community level. The project also supports the enhancement of the Baby-Friendly Hospital Initiative, which has included the Betioky Ville CHD as one of 9 pilot baby-friendly facilities in Madagascar.

Diarrheal Disease remains a leading cause of morbidity for children under 2 years of age in the district. The high risk population for this intervention is children 6-23 months. WRAs, fathers, traditional healers, *matrones*, schoolteachers and schoolchildren are targeted for this intervention. Attention is focused on appropriate home-based case management using locally available cereal-based fluids, viz. water in which local foods such as cassava are cooked; use of

ORS is also encouraged in the catchment areas of those facilities where the CS project (or UNICEF) supports a reliable supply of ORS packets. Referral of severe cases to facilities staffed by personnel trained by the project in CDD/SCM is encouraged. MCDI ensures ORS supplies for the 12 facilities not covered by the Bamako Initiative.

Child Spacing was selected as the fourth priority intervention. Until USAID/Madagascar established child spacing as a principal priority for its FY1998 action plan, family planning and child spacing had received very little attention in highly pro-natalist Madagascar. MCDI's HSA has discovered significant, unmet needs and demand in the Betioky-Sud District for child spacing, from both mothers and fathers. This intervention targets couples, reaching both men and women, and adolescent girls. In addition, it also targets *matrones* and traditional healers as a vehicle for promoting effective messages. MCDI's intervention activities in child spacing are complemented by UNFPA's training support of facility personnel in safe motherhood and reproductive health.

Approach to Integrated Management of Childhood Illnesses (IMCI)

MCDI has adopted a flexible approach with regard to the application of IMCI in Madagascar. MCDI's investment in building up a community-based approach to child survival is designed to complement and interface with the Ministry's investment in the clinical application of IMCI. While MCDI did not initially plan to include an IMCI intervention, the MOH subsequently requested that MCDI provide technical assistance in implementing this strategy. MCDI supports the SSD in developing the groundwork for IMCI by enhancing the capabilities of the MOH health facilities and personnel in the district; MCDI is working with UNICEF and the MOH in the phased introduction of IMCI in Betioky-Sud. MCDI's approach to the enhancement of Standard Case Management (SCM) at the health facilities includes incorporation of IMCI protocols in the district, as mentioned above. Training has been conducted with the SSD and includes improvements of SCM for diarrheal disease, and complements MOH training in malaria as well as pneumonia. MCDI also views the availability of pharmaceuticals as a critical issue. The supply of medications in the district cannot yet be fully guaranteed. As MCDI will be introducing a cost recovery pilot scheme in two facilities, and will be supporting Bamako Initiative activities in several others, MCDI will initially follow three strategies to enhance the supply of medications. The team is currently collaborating with the SSD to formulate a household and community-based IMCI strategy. (The home office has been providing backstopping support concerning IMCI.)

2. Progress Report by Intervention Area

Immunization

Activities related to this intervention

One of the objectives of the CS project is to increase the number of fully immunized children under the age of two and to improve the quality of EPI services in the project area; the project also aims to increase the Tetanus Toxoid (TT) coverage of WRA. In coordination with the SSD, the activities being implemented include:

**Medical Care Development International-Mid-term Evaluation
Report Child Survival Project Betioky-Sud Madagascar**

Planned activities	Results
Upgrade the cold chain and enhance its functionality in 11 health facilities in the project area in coordination with the MOH and UNICEF.	Ten out of 11 CSBs of the project area have improved cold chain functionality and equipment. Major infrastructure problems in the remaining health facility in Ambatototsy do not permit the presence of EPI equipment at the moment. The kerosene supply system has been improved and a 6 month stock is in place.
Provide initial training to 25 health facility staff and bi-monthly in-service training and supervision on technical protocols defined by MOH on EPI.	In response to the DIP reviewers' comments, the project trained 25 ASBs (agents sanitaire de base) in EPI using the new MOH EPI policy and technical guidelines. Monthly supervision visits allowed to do refresher training of the ASB on EPI techniques.
Provide training to 142 community health volunteers in EPI promotion, follow-up of defaulters, and village monitoring.	The Information, Education, and Communication (IEC) related to EPI promotion interventions were implemented in 9 health sectors in the project area. Out of a total number of 205 community health volunteers (CHVs), 124 were trained in EPI promotion and mobilization. The CS project and the volunteers were intimately involved in all social mobilization activities related to immunization, namely during NID, regional or local immunization days and during community festivities.
Establish a referral system between health volunteers and health facility personnel including a double entry system for vaccination records and community lists to provide follow-up for defaulters.	So far, the project has established the referral system only in 2 of the health facilities.
Adapt and implement appropriate IEC and social mobilization strategies.	The project is using the IEC materials provided by the MOH and developed in collaboration with Population Service International (PSI). This material includes immunization flags, immunization diplomas, and advice cards
Enhance district supervision capabilities to improve the quality of immunization services through frequent visits and by providing follow-up training.	The project has provided direct logistical assistance to SSD supervision activities by repairing motorcycles and providing a vehicle and bicycles for ASBs to improve the outreach strategy. It has also provided supervision forms and has covered some of the supervision costs. The project team also participated and gave support to the supervision and planning process to help identify the supervision teams, define the schedule and supervision circuit and prepare a supervision framework (which was later replaced by a framework prepared by the DIRDS). The project has also participated in all the strategic planning meetings for EPI activities with the SSD.

Progress toward benchmarks or intermediate objectives

Indicators	Baseline	Objective at EOP As Defined in DIP	MTE Survey Results
% of children 12-23 months who are fully immunized per the vaccination cards	9%	30%	21%
% of children 12-23 months who defaulted between the DPT1 and DPT3 doses	25%	10%	7%
% of mothers who have received 2 or more doses of the TT vaccine before the birth of their youngest child	21%	40%	16%

Note: Revisions to objectives based on the MTE survey results will be addressed in the annual report.

According to the MTE survey, the dropout rate for DTP3 has fallen significantly; program efforts should maintain a dropout rate of less than 7%. The number of fully immunized children has doubled, which represents a tangible achievement of the CS project. The reason for the drop in the rate of TT immunizations is not entirely clear and will need to be investigated.

Effectiveness of the intervention

The community health volunteers (CHVs) have played a key role in increasing the mobilization and awareness of the communities where they work. The CHVs look for children who are not immunized and send them to the CSBs. The community recognizes the advantage of immunization for their children. During focus group discussions, participants conveyed their perception that there is an association between immunization and decreased child mortality. The CSBs have been able to provide vaccinations every day without any stockout of vaccines and the cold chain has remained reliable during the last six months. Except for a change in the number of health staff to be trained (from 20 to 25), as was recommended during the DIP review, there is no other significant change.

Special outcomes, unexpected successes or constraints

Some of the outcomes and successes have already been addressed above. One constraint which has a negative impact on the project's training program as well as on project activities in general, is the reassignment of MOH health staff trained by the project from the intervention area to other locations. Collaboration between health volunteers and the ASB needs to be improved as it is still not considered adequate.

Although the MTE survey indicates improved immunization coverage in the project area, improved coverage outside of a 10 km radius from the health centers will require more efforts.

In addition, the MTE revealed that pregnant women begin their prenatal visits too late in their pregnancy and they have less contact with the health system than desired. It was also noted that missed vaccination opportunities occur during visits to health centers by WRAs coming for reasons other than for immunization services.

A serious constraint to this intervention is the fact that the EPI coordinator and other SSD staff did not have a clear and well-defined idea how to enhance its collaboration with the CS project. The SSD Directorate expressed the need for a more precise statement of collaboration. The value of incentives such as the immunization flag, and especially the immunization diploma, have been questioned because they are not fully understood by the community and the new MOH staff and so need to be re-evaluated and strengthened.

Follow-up and next steps

Some suggestions to improve the intervention and at the same time increase sustainability include:

- The CS project should support the CSBs to enhance their outreach immunization capacity and registration of all the newborns in the area.
- The project should help to improve the collaboration process between ASBs, CHVs, mothers and communities in general, whether it be in health education or in identifying and referring defaulted children.
- The project should support the SSD in the execution of strategic planning activities for EPI and jointly define a protocol of collaboration between the SSD and the project regarding EPI (and other activities).
- The CHVs should be more active in community mobilization to improve the coverage of TT vaccination of WRAs and pregnant women. In addition, the CS project, the SSD, and communities should evaluate other approaches besides immunization diplomas and flags as incentives to improve EPI coverage.
- It is suggested that the community volunteers organize themselves in an association that would encourage their continued existence even after the end of the CS project. Local authorities should be more involved and allocate funds for outreach activities. MCDI could serve as an advocate and help support this initiative.
- The SSD should take more responsibility in programming, implementing, and supervising EPI activities.
- The EPI coordinator at the SSD level should be trained in cold chain maintenance.

Breast-feeding

Activities related to this intervention

Planned activities	Results
Training of 18 health personnel in promotion of breast-feeding, including the benefits of exclusive breast-feeding, counseling, LAM, and appropriate weaning foods.	20 health personnel trained in breast-feeding promotion.
Orientation of CSB personnel in the Baby-friendly Hospital Initiative and MOH protocols.	No orientation of CSB personnel in BFHI, nor has the project provided BFHI assistance to the Betioky-Sud Hospital.
Organization and training of 142 community health volunteers in breast-feeding promotion.	Focus on the extension of community-based counseling services through health volunteers. One hundred and sixty-six CHVs have been trained in breast-feeding promotion and have been providing quality counseling services. This service is provided on a regular basis within the communities and benefits from regular monitoring visits by the project.
Organization of informal peer support groups to share information regarding the advantages of BF and the involvement of midwives, traditional healers, religious leaders, etc. to promote breast-feeding.	Five informal peer support groups to promote breast-feeding have been identified. Midwives and traditional healers were not included in BF promotion activities.
Strengthening of supervision of health personnel and health volunteers through visits, observations of counseling sessions, and feedback from mothers.	A breast-feeding promotion guide and a monitoring matrix of health volunteers have been developed.
Adaptation and dissemination of messages promoting breast-feeding.	Adoption of IEC materials developed by the MOH and JSI. Materials include counseling cards, newsletters, and posters. It

**Medical Care Development International-Mid-term Evaluation
Report Child Survival Project Betioky-Sud Madagascar**

Planned activities	Results
	<p>was felt more appropriate to test the effectiveness of these available materials rather than developing new ones. The project has, however, produced audio IEC materials for broadcasting through rural radio stations.</p> <p>Breast-feeding promotion messages have been adapted to local circumstances. For example, since local attitudes regarding prelacteal feeding are particularly strong (mothers believe newborns should be given a purgative potion that will protect the child), the message to mothers is to give the least amount of liquid possible if she feels it is imperative to give any at all.</p>

Progress toward benchmarks or intermediate objectives

Indicators	Baseline	Objective at EOP As Defined in DIP	MTE Survey Results
% of children less than 6 months who are exclusively breast-fed	11%	25%	42%
% of children 0-23 months who had diarrhea in the past 2 weeks who were given more than or the same as usual amount of breast milk during the episode	61%	80%	65%
% of mothers who initiate breast-feeding within an hour after giving birth	29%	40%	35%

Note: Revisions to objectives based on the MTE survey results will be addressed in the annual report.

To date, the promotion of exclusive breast-feeding has been the most successful intervention of the project and has exceeded expectations. However, improved breast-feeding practices when a child has diarrhea has been negligible. The percentage of mothers initiating breast-feeding within an hour after birth has increased steadily and is well on its way to meeting the program objective.

Community leaders, mothers, and family members are nearly unanimous in saying that improved breast-feeding practices have considerably improved the health of their children. They note, in particular, a decrease in the number of cases of diarrhea in children and infant mortality caused by diarrhea, improved weight gain by those who are exclusively breast-fed, and an increased resistance to illness. They have also observed that exclusively breast-fed children who do fall ill heal quickly. These positive results have led to an increased demand for BF counseling services.

Effectiveness of the intervention

There is regular availability of BF and nutrition counseling services in all of the health centers and counseling is offered by health agents at every contact with mothers, i.e., during ANC sessions, growth monitoring, immunization, and external consultations.

The presence and actions of CHVs has increased the population's access to services promoting breast-feeding. Community leaders, the population, and the volunteers themselves all believe their work is useful and effective. Volunteers consider their training in BF promotion and interpersonal communication so effective that they do not believe they need further training.

Messages promoting BF have been practical, feasible, and not contradictory to the socio-cultural context of the communities. The fact that grandmothers and mothers-in-law are not against

exclusive breast-feeding and the absence of specific taboos concerning breast-feeding and colostrum have contributed to the success of this intervention. Only one health sector community, Lazarivo, considers colostrum to be taboo and retains strong customs regarding the giving of prelacteals to newborns. This health sector is not yet covered by the project's BCC interventions.

Training workshops have led to an improvement in the communication skills of health agents and volunteers and have been an important factor in the success of this intervention, according to the agents and volunteers themselves.

One of the most important factors leading to improvement in breast-feeding practices has been the testimonies of *positive deviant mothers* who practice exclusive breast-feeding and are convinced that this practice has led to stronger and healthier children. Other mothers in the area have been quickly convinced that this practice leads to immediately noticeable improvements in the health of their children. The CHVs are certain that this method is effective and that it deserves more widespread use.

Fathers are also convinced of the advantages of breast-feeding and exclusive breast-feeding, in particular. Interviewed fathers have stated that it is necessary to be more strict with their wives so that they follow the advice concerning exclusive BF. They note that their children grow well and that their wives have more time for activities other than preparing the infant's food.

Initiation of breast-feeding within an hour after birth correlates with births attended by a trained health agent. In fact, it is often the health agent that puts the newborn to the breast of the mother. Since health agents are promoting this action directly, the population views this behavior as legitimate and acceptable.

Social mobilization festivals with village theatrical groups and traditional songs promoting positive health knowledge and behavior are highly popular within the communities. A relaxed atmosphere and distractions not specifically related to health themes permit the population to also better know and appreciate the CHVs who organize these festivities.

Special outcomes, unexpected successes, or constraints

Lack of time and limited geographical coverage by health agents and CHVs has been expressed and is felt to limit the success of the intervention.

People in the communities state that they are becoming poorer and their harvests are getting smaller, leading to mothers with a poorer nutritional status and a reduced capacity to adequately nourish their children through breast-feeding alone. This has led many to believe that exclusive breast-feeding is reserved only for privileged people, while others have publicly testified against exclusive breast-feeding.

Some positive deviant women are reluctant to provide public testimony concerning the advantages of exclusive breast-feeding for fear that they will be considered "pretentious" by other mothers.

Training of CHVs and health agents in counseling caretakers concerning weaning foods has not yet been done, partly due to the fact that, so far, no IEC materials related to this theme are available in the area. This has resulted in continued poor weaning practices despite improvements in exclusive breast-feeding.

Follow-up and next steps

Based on these findings, the project recommends increasing the EOP objective from 25% to 60% for children less than 6 months who are exclusively breast-fed. The remaining two breast-feeding objectives will be retained.

Concerning breast-feeding practices during diarrheal episodes, the CS project will increase its efforts to develop and better adapt IEC materials to the current situation, provide BF refresher training to CHVs, train community-based health agents on the importance of breast-feeding during diarrheal episodes, and strengthen the community monitoring of children with diarrhea.

The project should encourage and promote positive deviant mothers who can testify to the benefits of improved breast-feeding practices for their children. This can be done through broadcasting testimonies on rural radio and publishing testimonies in newsletters.

The project should increase the number and activity of CHVs in the project zone, with particular emphasis on improving their capacity to provide breast-feeding counseling. A guide for the volunteers should be developed to better define their roles and responsibilities.

The CS project should research ways in which to implicate midwives and traditional healers in the promotion of breast-feeding. Midwives, mothers, and grandmothers who attend to childbirth should also be targeted to promote breast-feeding immediately after birth and given responsibility to put a newborn to the mother's breast during the first hour after birth, as is currently the case during births attended by trained health agents.

The project should reinforce nutritional education activities for breast-feeding mothers and for weaning practices. A cookbook to promote local products can be developed in collaboration with LINKAGES, WFP, and SECALINE for mothers and children being weaned. The project is also encouraged to work with a dedicated nutritionist and the VEMIMA Association which has experience in community nutrition and cooking demonstrations, as well as with food assistance organizations to look into the possibility of nutrition rehabilitation for breast-feeding women in need.

The project should consider organizing the CHVs into associations and provide them with assistance in income-generating activities to help cover the costs of the associations and to serve as an incentive strategy.

Diarrheal Disease (including Cholera)

Activities related to this intervention

This control of diarrheal disease (CDD) intervention has been conducted in close collaboration with the SSD in Betioky-Sud.

Planned Activities	Results
Increase supply of ORS and IV drips in every health center of the project area.	This activity has been developed through the process of community-cost-sharing. The project has supported the introduction of this system under the MOH health reform.
Conduct training for 18 health facility staff in Diarrhea Case Management, including dysentery and persistent diarrhea according to MOH protocols.	The MOH adoption of IMCI has helped the project to reorient the CDD training within the IMCI protocols. Fourteen health staff were trained in IMCI.
Conduct training for 142 CHVs in MOH protocols for home management of diarrheal disease, as well as for assessment and referral of more severe cases.	The project has already trained 184 CHVs (out of a total of 205) in control of diarrheal disease at home and on protocols of assessment on referral of severe cases (including dysentery and persistent diarrhea).
Promote the development of village support groups to share experiences in the use of home-based fluids and its distribution, at community level, of ORS.	The distribution of ORS at community level has not yet begun. The project has implemented social mobilization activities related to the control of diarrhea and cholera. It has also been active in creating the "local committee against cholera" and helped in the training with a view to improving the capacities of local authorities in the control of cholera outbreaks. The project, SSD, and the main office have prepared a guide on how to control and manage cholera outbreaks. A training schedule on CDD to train volunteers has been established.
Adapt and disseminate culturally appropriate IEC strategies for social mobilization regarding danger signs, referral, quality home-based care management and diarrhea prevention.	The project is using MOH IEC materials such as posters, leaflets, counseling charts, which have been previously tested. The project has also developed radio spots for use in local rural radios.

Progress toward benchmarks or intermediate objectives

Indicators	Baseline	Objective at EOP As Defined in DIP	MTE Survey Results
% of children 0-23 months who had diarrhea in the past two weeks who were given more than usual or the same amount as usual of breast milk during the episode.	61%	80%	65%
% of children 0-23 months who had diarrhea in the past two weeks, who were given more than the usual amount of fluids during the episode.	53%	70%	61%
% of mothers of children aged 0-23 months who seek advice or treatment when their child has had prolonged diarrhea (more than 14 days) or bloody diarrhea.	12%	50%	59%

Note: Revisions to objectives based on the MTE survey results will be addressed in the annual report.

The MTE evaluation survey revealed that there has been no change in mothers' behavior related to giving more breast milk during diarrheal episodes and a small increase in the percentage of

mothers giving more liquid during episodes. However, there has been a dramatic increase in mothers seeking advice or treatment when their child has diarrhea or dysentery.

Effectiveness of the intervention

The CS project has had a significant impact on improving the quality of care in health centers. The ASBs have received support from the project in training, logistics, and basic equipment for IMCI; however, ASBs think that the project could expand coverage to more health sectors. According to health staff, although the supply of ORS and IV drips is now reliable, certain CSBs have complained about stockouts.

Collaboration and coordination between the CS project, ASBs, and the community volunteers has improved, especially in regards to the control of diarrheal diseases and cholera and has proved effective in the control of cholera outbreaks. In fact, it was noted that, in the health sectors where coordination is strongest, control of cholera outbreaks was more effective than in other areas.

The CS project has developed a strong relationship with schools through the Child-to-Child strategy and has begun to show positive results among children. Children are now taking initiatives in personal and collective hygiene activities. Teachers consider the project interventions to be very positive and within the objectives and policies of the MOE, but they would like to have more project support.

Changes in technical approaches outlined in the DIP

At the beginning of the CS project, the CDD intervention was presented as a vertical activity. However, since the IMCI strategy was included as part of the project, this intervention is now implemented as an integrated component of IMCI. The most important change was an added emphasis on cholera treatment and the creation a cholera intervention team within the SSD. This was done because of a cholera outbreak which occurred in the first quarter of 2000 in Betioky-Sud. MCDI has, from the very beginning, provided material and organizational support for this intervention.

The CS project was instrumental in the creation and training of a cholera intervention team in each health center to control epidemics. Each team has the responsibility of educating the community about cholera prevention and response through proper hygiene practices such as protection of wells, community epidemiological surveillance (early detection of cases), treatment of people in contact with cholera patients, and appropriate handling of people who have died from cholera. The project also provides specific training in cholera control to 127 health volunteers and supports the production and distribution of IEC materials to be presented in the communities and during market days.

Guidelines on how to control cholera outbreaks were prepared by the project to be used by local authorities and community leaders.

Special outcomes, unexpected success or constraints

The Child-to-Child intervention and the participation in the control of cholera outbreaks are significant successes of the CDD intervention. Being actively involved in the cholera control activities has given the project the opportunity to become more involved in health development activities in the district and to become more accepted by the community and health services.

Constraints identified during the MTE include:

- Some CSBs still have stockouts of essential drugs for CDD, especially ORS sachets.
- The communities report financial difficulties in paying for treatment (ORS sachets), which seems to hinder access to care.
- It was revealed that messages promoting the use of latrines were not acceptable to the community due to conflicts with traditional beliefs.
- The IEC materials were insufficient in quantity.

Follow-up and next steps

- The project should strengthen its support of the CSBs, especially in the improvement of the drug management system.
- Increase health volunteers' responsibility in ORS distribution at the community level in order to have an increased impact on the household management of diarrhea.
- Evaluate the possibility of replicating the community credit experience of Ankazonaga-ouest in other health sectors to improve the financial accessibility to care.
- Strengthen the collaboration between health volunteers and ASBs, as well as the participation of local leaders.
- Extend the training in health education and the Child-to-Child Approach in schools to all teachers and establish a supervision and refresher training plan.

Child Spacing

Child spacing was chosen as a priority intervention to decrease maternal mortality. The intervention aims to improve the accessibility to and the use of contraceptives through quality family planning services and community promotion of FP.

Activities related to this intervention

Planned activities	Results
Conduct initial training and strengthen supervision for 16 ASBs in child spacing, IEC, and SIGS.	The health facilities in the project area have well equipped FP services and a trained health staff. A total of 30 health staff has been trained in FP and 25 of them in Reproductive Health.
Strengthen the regular and adequate supply of contraceptives.	The supply of contraceptives in the project area is guaranteed by the existing cost-sharing scheme which has already proved to provide regular supply of contraceptives in the health centers.
Conduct training for 142 CHVs in child spacing	A total of 129 CHVs have been trained in child spacing

**Medical Care Development International-Mid-term Evaluation
Report Child Survival Project Betioky-Sud Madagascar**

Planned activities	Results
promotion (including LAM, collateral benefit on STI/HIV prevention with condom use, innovative IEC and social marketing).	promotion. Fifty-four of them are members of village, and 'animation committees' involved in message dissemination. Eighty-five ASBCs provide community distribution of contraceptives.
The expansion of the community-based distribution (CBD) of contraceptives and condoms.	The project has trained 11 heads of health facilities as trainers of community based agents. Other health personnel have been trained in clinical FP. In the project area, 10 out of 11 health sectors have active CBD activities.
Adapt and disseminate messages on child spacing.	Message are disseminated through health volunteers and health centers using IEC materials developed by the MOH, JSI and FNORP. Audio spots developed by the CS project are also being used. The extension of FP to the private sector has not yet occurred because the private sector is not significant in the area.
Conduct strategic planning workshops for district level and regional level key personnel to increase support for child spacing.	This workshop has not yet been conducted.

Progress toward benchmarks or intermediate objectives

Indicators	Baseline	Objective at EOP As Defined in DIP	MTE Survey Results
% of mothers who are not pregnant, do not want another child in the next two years or are not sure, and are using modern methods of contraception.	9%	20%	15%
% of mothers who can cite a source for services in modern methods of child spacing.	No baseline data	56%	25%

Note: Revisions to objectives based on the MTE survey results will be addressed in the annual report.

The results above show improvement in mothers' knowledge with respect to contraception and child spacing. During the MTE, an in-depth analysis of the results showed that the population in the Northern Region (the Antanosy) is more receptive than the people in the Southern Region (the Mahafaly) to modern contraceptive methods.

Effectiveness of interventions

The project's application of this intervention, in close association with the MOH (SSD and Regional RH), has enhanced the capacity of CSBs to provide FP/child spacing services. Women are satisfied with the quality of the services provided so far. The clients' choice of contraceptive method has usually been available, although they have not been able to satisfy the relatively small demand for long-term contraceptive methods such as vasectomy, IUDs, and implants.

The performance of the CBDs (all are agents sanitaires de base communautaires, or ASBCs) varies widely and can range from 0 to 120 clients a day. This is due to the limited experience of the ASBCs in BCC interventions. It was also noted that in the 6 months prior to the evaluation, no stockouts of contraceptives were reported, even though at the end of 1999 there was one stockout. The CHVs are able to disseminate messages and encourage WRAs to use FP services despite limited IEC materials, but there is a need for additional training.

Special outcomes, unexpected successes, and constraints

During the evaluation it was revealed that the CHVs door-to-door approach was the best communication method to disseminate FP messages in the community. The ASBCs actively seek out WRAs who are potentially interested in child spacing/FP, in which case they refer the women to the CSB, especially when the woman requests injectable methods of contraception. Some women are concerned about using the health center because they have made the decision to use contraceptives without the consent of their partner and fear that confidentiality may not be respected.

Community partners are active at the community level; this has promoted the sustainability of the FP and other project interventions. Community partners are also in the process of creating volunteer associations and supporting income-generating activities for volunteers. The population is beginning to understand the need for using child spacing and FP. The population has also demonstrated a particular interest in preventing sterility, which is often linked to STIs.

Constraints identified during the evaluation include the following:

- The project has trained all of the CSB managers in FP, however the majority have been transferred to other areas by the MOH. This high mobility of health personnel is a major problem because the newly arrived staff have usually not been trained and are not prepared to coordinate their activities with the volunteers and ASBCs.
- The SSD in Betioky-Sud seems to have some difficulties in relating with the CS project. It often results in misunderstandings and limits the effectiveness of CS interventions in certain technical areas. There was a stockout of contraceptives in 1999 which has created some skepticism in the population towards the FP program and the health centers. The supply problem has been resolved but the project should make every effort should be made by the project to enhance the SSD's logistical capacity.
- There appears to be an increasing demand for long-term contraceptive methods. However, the CSBs and ASCBs are not able to completely satisfy this demand. The project should work with the SSD to study ways to improve the availability of long-term methods of contraception.
- IEC activities suffer due to limited access to IEC materials that volunteers need for their door-to-door contacts. Nevertheless, the project and the volunteers are developing and using radio spots, such as songs and sketches, for social mobilization events at the community level.

An additional constraint is that the project has only targeted women so far. Since men are often the decision-makers in local households, the impact of this intervention is likely to be somewhat limited.

The CHVs' FP responsibilities beyond BCC activities are not clearly defined, which has resulted in some confusion.

The ASBCs, although they feel adequately trained to provide FP advice, counseling, and dispensing of contraceptives, feel deficient in their knowledge of injectable contraceptives.

Additionally, the community does not understand why the ASBCs do not provide medical care beyond the provision of contraceptives.

The policy of ASBCs keeping a certain percentage of funds from the sale of contraceptives has changed recently, by order of the Regional MOH. All money should now be sent to the Pharmacy account in the CSB. This decision will bring about some problems in the ASBCs' activities.

Follow-up and next steps

The project should train newly arrived CSB staff using an on-the-job training approach and a self-training process recommended by the MOH. It should also analyze the results of this MTE with the MOH at the regional and district level. One person responsible for training in the SSD should be paired with the project quality assurance coordinator. Moreover, the project should work with the MOH (SSD and regional) to study the feasibility of providing long-term FP methods (vasectomy, IUD, etc.) in hospitals.

The project also needs to train the volunteers and the ASBCs in basic knowledge related to long-term FP methods for diffusion in the population. The CHVs and other health personnel should be monitored during these IEC/BCC activities and they should receive support to improve their skills and their use of IEC materials.

The IEC Project/BCC strategy should expand interventions targeting men (fathers) so that the decision of child spacing and FP is the result of a common agreement in the couple. The intervention will then have a greater impact. It has also been suggested that some IEC/BCC messages related to FP could target older women (who can influence the decision-making process) and adolescents.

The project should analyze with the MOH the possibility of providing some training in basic first aid (within the context of IMCI) and distributing chloroquine and some other essential drugs at the community level. The project should also work with the SSD in order to prepare a protocol where the links between the CSP and SSD are better defined.

The CS project, along with the MOH, should prepare guidelines for the ASBCs and ASBs which would clarify the role of the volunteers in the FP strategy. It is also recommended that training modules for community partners be prepared with the participation of the VCS/ASB/ASBCs and approved by the SSD. A component of training in STIs and sterility should also be included in the training.

Finally, the project should work with the MOH (SSD and regional levels) to help in the definition of a process that will allow the ASBCs to keep a percentage of their sales revenues, or define a similar incentive process.

Integrated Management of Childhood Illness (IMCI)

This component was not included in the initial CS project design. The MOH and the Regional Health Directorate decided to begin the introduction of IMCI in Betioky-Sud because MCDI's Child Survival Project was already present in the area. MCDI agreed to lend one staff member to the MOH to furnish IMCI training.

Indicators	Number	Comments
Number of health personnel trained in IMCI in the district	14	3 ASBs were moved out of the district; 1 new physician trained
Number of trainers trained in IMCI	1	MCDI team member; SSD person responsible was transferred out of the district
Number of health facilities working in IMCI	4	
Reliable source of consultation forms	None	MCDI covers the costs

MCDI is providing support for several activities such as local IMCI orientation for health staff, reorganization of activities in each health center along with job descriptions for personnel, providing forms and materials as well as supplies for the ORT corner. To date, only four centers have implemented the IMCI strategy.

Successes

IMCI implementation has been facilitated by the existence of community health interventions already in place in certain health centers, by the existence of a regular stock of IMCI essential drugs, by the reorganization of the health centers, and periodic supervision visits.

Constraints

- Health staff trained in IMCI by the project are often transferred elsewhere by the MOH and newly arrived staff usually require training in this strategy. However, the MOH is reluctant to organize frequent training workshops due to the disruption this causes in the functioning of the health services.
- The change of the district Health Director has caused some misunderstanding concerning MCDI's role as a leading organization in the implementation of the IMCI strategy in Betioky-Sud. Although the regional level MOH has explained the situation to the district level, there remains some misunderstanding between the district and MCDI which needs to be resolved.
- The absence of an IMCI coordinator in the SSD hinders the coordination of IMCI-related activities, especially supervision.

Follow-up and next steps

MCDI needs to work closer with the MOH at the regional and the district levels in order to establish a consensus in certain IMCI concepts, including supervision, financing of referral centers, outreach activities and integration with EPI. In addition, MCDI needs to support the MOH in identifying lessons learned from the IMCI implementation in Betioky-Sud, lessons

which could then be applied at the national level. The home office has been and will continue to maintain regular IMCI backstopping support to the field team, and has most recently provided updated information on community-based IMCI to enhance the project's BCC interventions.

3. New Tools, Approaches, and Special Studies

The CS project has two important innovative tools that could potentially improve the overall efficiency of child survival interventions and have a future impact on the sustainability of health services. These two tools include a non-malaria fever study and a community financing initiative. In addition to this, the community has developed a credit insurance plan (CIP) which helps villagers to pay for their medical expenses.

The Non-Malaria Fever Study

In 1999, Yale University School of Medicine and MCDI, with the approval from the health authorities in Madagascar, reached an agreement to conduct a joint study on non-malaria fever in the Betioky-Sud area. Most of this research represents the application of new, analytical and diagnostic methods for febrile etiological agent research in Madagascar. Information from this study will be used to enhance diagnosis and treatment of maternal and pediatric fevers.

MCD Board Member Dr. Russell Barbour traveled to Madagascar in May 1999 to carry out the prospective study of malaria and non-malaria febrile agents in Betioky-Sud. The project received nearly \$200,000 of in-kind contributions from Yale University to conduct this study, including the cost of laboratory facilities, an intern medical student, and a senior research analyst who were responsible for data collection, analysis, and reporting in the field.

The purpose of the study was to increase understanding of haematoparasites in the population served by the CS project. The primary objectives of this initial study were to:

- **Create a baseline of existing malaria species and strains.** Yale Medical School categorized the current strains of malaria in terms of species, drug resistance, and other indicators of virulence. Special attention was given to identifying **pediatric cross infections** with both *falciparum* and *vivax* that may have nutritional consequences.
- **Determine the presence/ non-presence of lice or tick borne bacterial etiological agents of febrile disease.** These etiological agents are very difficult to distinguish from malaria clinical presentations, but require different therapeutic measures. These tick borne bacterial infections are more easily treated and controlled than malaria and do not respond to most malaria drugs. The presence of these febrile agents has been confirmed in western Madagascar. A review of the literature suggests that the Yale /MCDI Prospective Study is the first application of the Polymerase Chain Reaction method to the analysis of tick or lice borne febrile agents anywhere in Madagascar.

Several methods were used to identify etiologic agents of febrile disease in the Betioky-Sud Health District. For example, blood and lice samples were taken from individuals presenting with fever at health facilities and ticks and other blood feeding arthropods were collected from

domestic settings. Blood samples were taken from individuals of any age presenting with fever, and these samples were used for both malaria and bacterial infection diagnoses.

Analysis of the samples has not yet been finalized, but preliminary tests show the following results:

- Malaria could be confirmed in less than half of the patients presenting with fever.
- There was some indication of *P. falciparum*/*P. vivax* cross infection in one blood sample.
- An unexpected, previously uncharacterized, Rickettsia bacteria in lice from fever patients also seropositive for malaria, suggests that the possibility of bacterial fever agents cannot be ruled out.
- The possibility of co-infection with malaria and bacterial febrile agents could cloud clinical observations such as presumed drug resistance.
- Malaria confirmation was higher for pediatric patients than adults; age and malaria confirmation correlation was statistically significant at the 10% level, but not 5%.
- The severe pediatric anemia observed and the indications of opportunistic infection in both lice and blood suggest the sampled individuals are immuno-compromised.

The results of this study suggest that a new approach to malaria case management would be more effective and could result in substantial cost savings in Child Survival Programs.

Community Financing Initiative

The Community Financing Initiative is a new approach designed to provide the population with an option to cover their health costs as a result of the MOH's introduction of a new cost-recovery strategy.

The Community Financing Initiative introduces an innovative cost recovery component. The initial situation analysis review examined the extensive previous experience with cost recovery and community financing in Madagascar (through a literature review, on-site visits, and focus group interviews with key constituents), and analyzed household income, expenditure and health care consumption data gathered under the auspices of USAID, The World Bank and bilateral donor projects. Based on this review, the project's health economist formulated a proposal for a community-based financing scheme.

The design and implementation of this component calls for communities to play a leadership role in planning for the financial sustainability of their CSBs. Executive Committees of the Community Health Associations (CHAs) are responsible for working with CSB staff and District Health Service supervisory personnel to develop budget and service pricing proposals that are reviewed and voted upon by a General Assembly of the CHA. The CHAs are made up of representatives of Management Committees (MCs) from each participating fokontany (rural administrative area).

Executive Committees from each MC are responsible for (1) enrolling members in the Plan; (2) managing their village's share of the collateral fund; (3) reimbursing the CSB accounts (managed by the CHA) at the end of each month for the total cost of services rendered to members from their village; (4) collecting retrospective payment from each person treated on a

credit basis during the preceding month; and (5) enforcing member compliance with the terms of the Plan.

So far, the implementation of this pilot scheme in the two service areas in the Betioky-Sud District has been successful. MCDI has provided direct supervision through the field team as well as technical assistance and backstopping from headquarters (Dr. Chris Schwabe, the health economist, has visited the site three times).

Community Financing of Health Services

The community credit-insurance plan (CIP) of Ankazomanga is a health insurance scheme begun in August 1999. It is comprised of approximately 2,000 members and is growing steadily. The villagers use this system to pay for their medical expenses.

The impact of the CIP seems to be generally positive and is described below:

- impact on health center management? no negative impact on performance. The involvement of the health worker is limited and well-defined.
- community mobilization activities? because the CIP is a community-based system aimed at improving the community health status through better access to health care, it is advisable to also use it for health promotion. Health workers and community volunteers should promote health messages among CIP members.
- family financial status and healthcare expenses? since the creation of the CIP, it has been much easier for community members to find the necessary funding through this system.
- MOH Cost Recovery System (CRS)? in 1998, the MOH instituted a cost recovery system at the community level. Design flaws, however, have made this system a barrier to health care access. The CIP seems to adequately respond to community needs and should be replicated in other sites and districts throughout the country.
- behavioral change? community leaders, health workers, and CIP management committees agree that the CIP has created a sense of financial security that permits community members to seek health care when needed and to understand the importance of keeping this system alive by maintaining their membership up-to-date. This self-funding system also allows the primary health center to provide quality health care. Since the creation of the CIP, primary health center attendance has steadily increased and the population is progressively reducing its reliance on traditional healers. Behavioral change has also resulted from the creation of a new health center, the provision of better quality health care, and the action of community volunteers.
- very low-income population? no provision exists for very low-income population to benefit from the CIP. The main priority is, for now, the sustainability of the system.

The CIP seems to be operating well. It is recommended, however, that a deputy treasurer be appointed when the treasurer is absent. The deputy treasurer should be from the same village as the treasurer in order to maintain the flow of credit. It is also advisable to ensure continuous follow-up and refresher training course for CIP members.

CIP sustainability:

- the structure of the CIP is considered adequate to ensure sustainability.

- Membership criteria, reimbursement, and credit allocation are well accepted and considered sustainable.
- CIP management is effective in improving community health status but needs consistent monitoring.
- CIP activities are suitable for population needs and community health care funding.
- CIP is the first choice payment system for community members since its creation.
- CIP ownership by the community is well rooted in the community members who abide by the membership rules.
- CIP sustainability is unlikely to be threatened by any particular problem.

Interviews and discussions with the people in charge of the CIP and community leaders showed no impediment to CIP sustainability.

Recommendations

- Establish a protocol agreement between the SSD and CIP.
- Emphasize the role of community ownership of the CIP.
- Constant follow-up and refresher courses for the CIP management team.
- The CIP should consider expanding the funding to cover other sectors (agriculture, economy, etc.) and include a strategy of health promotion through IEC activities targeting CIP members.
- Improve and amend CIP management procedures.
- Restructuring of CIP offices.
- An inventory of potential CIP sites is about to start and should be evaluated by the SSD and USAID for success. The Antohobato SSD is a good example to consider.

B. CROSS CUTTING APPROACHES

1. Community Mobilization

To date, the program has?

- trained 205 CHVs. These volunteers, who are now operational, have primary responsibility for disseminating health messages in the chosen interventions, learning about target populations and undertaking activities to mobilize the communities;
- adapted and disseminated information, education and communication (IEC) tools used as vehicles for priority health messages. Two hundred and five volunteers were put in place and are operational. The IEC approach was implemented in 9 health (geographic) sectors of the project area. The operation was successful and was well received by the population. The health education strategy adopted by the volunteers consists of simulations of real cases, testimonies of beneficiaries, plays and songs, rural radio, etc. Schools, local and religious institutions also contributed to strengthening community health messages;
- implemented a Child-to-Child strategy in 11 primary schools and 6 secondary schools. The themes were vaccination, breast-feeding and diarrheal diseases. Six trainers and 87 teachers were trained and systems and tools for monitoring and evaluation were put in place;

- introduced a system of incentives for volunteers such as special recognition, distribution of T-shirts, and small prizes. More sustainable and long-term incentives for volunteers are being initiated through the establishment of volunteer associations and the introduction of income-generating activities.

Information, Education and Communication (IEC) Volunteers

Information is disseminated to the local population through volunteers recruited from within the community itself or from local associations. These volunteers have a variety of names: village activity cell (VAC), community health volunteers (CHVs), and community partners. These volunteers have been trained to advise and teach the local population about immunization, breast-feeding, diarrheal diseases, and child spacing; they also mobilize the population during immunization campaigns. The CS project has worked with two groups: VACs and “Women Advancing Together” (VEMIMA), a women's association.

Village Activity Cells (VACs) VACs are an important element in the successful mobilization of the community concerning the project interventions. They are proven to be an efficient vehicle for effecting desirable behavioral changes in the community. One aspect that needs to be emphasized at this stage is the relationship between the VAC and SSD and the need to clarify this relationship. because of the usefulness of the VACs, the SSD should support and use these communication volunteers to assist them in implementing the MOH instructions and. This move will strengthen and improve the relationship both at the level of MCDI-SSD and volunteers-CSB.

Local Health Agents (ASBs) Health activities and tasks are not clearly assigned between VACs and ASBs, which causes friction and an overlapping of responsibilities. ASBs should fully engage in the VAC initiative and enhance their supervisory capacity, while the VACs should understand that they are supervised by the SSD and not MCDI. For the project to be integrated in the local system, the project and the SSD should convene and formally agree on the role ASBs have to play in the technical supervision of the VACs as part of the IEC strategy and how to improve this strategy to ensure sustainability.

VAC Activity Monitoring by ASBs Logistics and funding problems are the main obstacle for monitoring and evaluation. Emphasis should be placed on the formulation of a new protocol and the development of a monitoring tool. ASB training in supervision activity and identification of sources of funding should assist in follow-up and sustainability.

VAC and the Decentralized Unit of Rural Activities (DAR) The DAR evaluates VAC technical performance regularly, develops lessons, and plans for future activities. In spite of this, DAR feels that more work is needed to motivate volunteers. Furthermore, there is no coordination between the DAR and the person in charge of IEC activities at the SSD level. Therefore, the CS project should harmonize and coordinate VAC and IEC activities at the SSD and DAR levels.

Other Concerns VAC activities are sometimes hindered because volunteers lack appropriate tools to assist them in informing a population with a low literacy level. Recruiting female

volunteers also requires the husband's consent for his wife to work. Although workers are willing to have a non-paid activity, they sometimes feel the need to increase their standing within the community by receiving some form of payment. The project should therefore speed up the development of income-generating activities.

“Women Advancing Together” (VEMIMA), Women's Association In June 1998, an agreement was signed between VEMIMA and the CS project and training in CS project interventions was provided to the members of the association. VEMINA offers free information and counseling to the local population. Their willingness to do more depends on the training they receive. Based on focus group discussions, the following recommendations were made:

- Volunteer re-training should take place every two months to maintain motivation and ensure retention of knowledge.
- A more in-depth training on cholera, contraceptive methods, adolescent reproductive health, IMCI, and emergency health care is very much in demand and should be provided.
- Extension of the intervention area to the north of Onilahy is also welcome, if transportation is subsidized.
- VEMIMA members would like to develop more income-generating activities. For this purpose, organizations like the Swiss Development Cooperation, Women and Development, and legislators from the Madagascar National Assembly have been approached.
- MCDI is currently working with VEMINA to carry out a capacity assessment that will be the basis for a capacity building plan to cover the remaining two years of the project.

Community-based Health Workers (ASBC) These workers are trained in birth spacing, counseling women, and in distributing oral contraceptive pills and condoms. They are presently seeking more responsibilities in prescribing and administering contraceptives and other medicine; these changes have to be cleared with the MOH to avoid malpractice.

2. Behavioral Change Communication

Initiating behavioral change, by disseminating information about health, has been very successful, especially in the breast-feeding intervention. The same messages are conveyed and supported by the CS project, volunteers, health workers, and teachers and have had a tremendous impact on behavior change in the population in general and mothers in particular. It is therefore recommended that the local authorities, birth attendants, and traditional healers be mobilized in order to spread information provided by the CS project. Behavior change activities for child and maternal health should target other family members such as fathers and grandmothers.

Lessons learned

Behavioral change is a long-term process and entails cultural change. It requires explaining and showing the drawbacks of the old mode of behavior and demonstrating the tangible benefits of the new one. Moreover, this change needs to be supported and advocated by influential members of the community to facilitate widespread acceptance of this new mode of behavior.

Social Mobilization and Communication on Behavioral Change: Conclusion

Using community volunteers to initiate behavioral changes has proven effective in conveying CS project messages. Volunteers, who learned and adopted the new ideas, were the first to benefit from the change; they in turn taught the messages to the community. Along with peer influence approaches (child-to-child, women to women, and men to men), the involvement of other community members (teachers, prominent persons, men, and youth) has been important in influencing behavior change. Festivals, songs, plays and other forms of entertainment have also been good means for relaying messages.

The role of communicators, acting as links between the authorities and the population, should be extended to other health interventions and to other sectors such as the environment, elimination of illiteracy, and youth-related issues. The extension of their activities is therefore planned for future consideration. Although women obviously have an important role in issues related to women's health, men are also regarded as helpful communicators due to their position in the society. The newly appointed district level person in charge of IEC should be more familiarized with the importance of the VAC. Time management and group follow-up should help some health agents provide tutoring to the volunteers.

MCDI will continue to implement and strengthen BCC activities focusing on the 16 Key Family Practices within the framework of C-IMCI. In collaboration with the SSD, the project will advocate the introduction of C-IMCI into the general IMCI strategy in the intervention area.

3. Capacity Building Approach

Strengthening Local Partner Organizations

Betioky District Health Service There is high staff rotation with more than 14 technical personnel redeployed or reassigned since the project started. Most have been trained in technical, planning, and organizational matters. The SSD director has also changed 3 times since the CS project's inception. The Health Ministry itself has been reorganized and NGO-managed projects must adjust to new working methods to stay on track with the implementation of the National Health Policy. Furthermore, most District Health Service managers arrived after the initiation of the Planning Grant phase of the present project. Thus, there is no institutional memory of project preparation. There were also several changes of Ministers with sometimes conflicting policies and methods. USAID Madagascar has offered to serve as an intermediary, if necessary.

All these changes have negatively affected the activities of the CS project and with each change, efforts were required to dispel impressions that MCDI has been or is being imposed upon the local entities. Since August 2000, the situation seems to be improving and a good working relationship has been established with all local partner organizations.

Decentralized Unit of Rural Activities (DAR) DAR is a part of the inter-regional directorate of the Ministry of Information, Communication and Culture. The person in charge, Ms. Moma, is responsible for the information, education, and communication component of the CS project and she dedicates 3 work days per week to the project. Ms. Moma won high praise for the quality of her work from her superiors in Toliary. She participated in the training of 203 VACs and 79 CBHW. Eight associations have also been created and are functional in the Betioky district. The achievements of the CS project in social mobilization owe much to DAR and to the dynamism of Ms. Moma.

School District An agreement was signed between the CS project and the School District on the Child-to-Child strategy. All elementary school teachers were involved in conveying CS messages, such as fighting against diarrheal diseases, cholera, breast-feeding and vaccination. Several training sessions and workshops were organized for the implementation of the Child-to-Child strategy, including the training of trainers. More than 100 schools and several thousand children apply the various elements of the child survival programs in their daily routine. School district managers are very satisfied with the outcomes of the CS project. Teachers, however, found the training too short and requested a follow up and re-training when necessary.

Children appear to have been an efficient vehicle for CS messages and the MTE survey revealed significant behavioral changes in families and the community as a whole. Children are listened to and CS messages about behavior change (e.g. washing hands before meals, boiling untreated water before use, etc.) have been internalized. As a result, school district personnel have had to adapt to the changing situation since they serve as role models to the students. That is, they must also adopt the appropriate hygiene practices in a way that will influence their students.

Partnership The school district, the DAR, the district health service, local governments in the CS project area, the women association (VEMIMA), and the Betioky administrative district form a partnership with the project and cooperate towards the achievement of its objectives. Other partnerships could be formed between these entities without necessarily involving CS project (e.g. between the school district and the SSD, etc.). MCDI could do away with the vertical approach, take a low profile and foster a horizontal approach taking into account each entity's comparative advantage. MCDI could build on each entity's strength to enhance system sustainability.

Health Facilities Strengthening

An MCDI initiative to improve the quality of health care in health centers was initiated in 1999. This initiative was discussed with and accepted by the SSD director. A first assessment of health centers was completed and interviews of patients, health workers, and an inventory of resources were conducted. The performance of health centers was also monitored. The improvement in the quality of health care is a long-term objective because it requires regular follow up and monitoring until such a time that the required norms are reached or attained.

Strengthening Health Worker Performance/Training

To date, training has been an important focus of the CS project but changes are required due to a variety of reasons (cost, logistics, etc.); health workers can no longer travel as easily as in the past and self-directed training is being introduced by the MOH. The CS project will gear itself to deal with this new approach. Health workers complain that there is insufficient follow-up and supervision after training and have requested that all future training programs take this into account. The project will continue to support the SSD in carrying out its supervisory role.

4. Sustainability Strategy

The strategies underway or completed by the CS project to ensure sustainability include the following:

- Strengthening the capacity of MOH staff constitutes the main thrust of the strategy. The project has already organized training sessions for all levels and in several CS technical areas. This formal training is now being complemented by self-directed training. Until this program is institutionalized by the MOH, on-the-job training will serve as an interim measure for the improvement of skills. Attention will also be given to the need to retain staff already trained (refresher training).
- The Primary Health Center represents the locus of all sensitization and promotion activities in health matters. During personnel changes, the transfer of responsibilities should be such as to ensure a continuity of service and the sustainability of the relationship with community liaison workers.
- Organizing groups of community partners into formal associations (i.e., “Association for Health Development”) and consolidating separate interventions to avoid duplication.
- To ensure the sustainability of the VACs created during the project, VACs should be formally recognized by local authorities and by private and public partners. The VACs were already successfully used by the authorities to spread messages against cholera. Income-generating activities would enhance the sustainability and independence of these associations.
- Expanding and strengthening of local partnerships so as to internalize the concepts and behaviors of the CS project is one of the cornerstones of the CS project's sustainability strategy. The Child-to-Child program has been a very successful arrangement for relaying CS messages to the families and the community at large. Other peer approaches should also be tried: mother to mother, woman to woman, man to man, etc. The design and implementation of a process of experience sharing will remain among project priorities. District authorities could serve as a very effective relay for project messages to other administrative units, public organizations, and

local communities. Adapting and tailoring CS project messages to communities' customs and way of life enhances acceptability and therefore sustainability.

- Financial sustainability can hopefully be achieved by scaling up the mutuelle system of community financing developed by the project.

III. PROGRAM MANAGEMENT

A. PLANNING

It is recommended that the MOH assign a counterpart to be responsible for the supervision and planning of project-related activities that are the responsibility of the MOH. For ongoing planning purposes, the CS project consults with district and regional-level MOH personnel, the MOE, community associations, and other partners such as UNICEF. The project has been able to closely follow the original workplan with few deviations, particularly in regards to training, IEC activities, and the implementation of the community credit-insurance plan. Although the objectives of the program appear to be understood by the program's partners, including the MOH and the communities, there have been misunderstandings concerning the roles and responsibilities of the different actors. This has been recognized and the project is taking steps to resolve these misunderstandings. Project documents, including program objectives and workplans, have been shared with local partners. There is very good communication between project staff and community partners concerning program goals, objectives, and activities. The project is making efforts to improve communication with district level MOH personnel, especially concerning planning. Ongoing planning is based on a constant evaluation of program activities, health service provision, and feedback from health personnel and volunteers and the communities.

B. STAFF TRAINING

The project staff has received training in the strategies and methodologies of the project; this has ensured an appropriate understanding of how to implement field activities. Most of the lessons learned over the course of the CS project have resulted in increased knowledge and improved program staff skills, i.e., in the areas of community financing, social mobilization, supervision of health agents and community partners.

Since the project DIP, the following activities have occurred:

- Training of the Program Manager at a Field Manager's Workshop held from June 21-23, 1999 in Washington, DC. Training was provided in the areas of community IMCI strategies, rational pharmaceutical management, quality assurance techniques, and malaria rapid assessment methods. The Program Manager also attended sessions of the Global Health Council at their annual meetings.

- Training of the Field Program Manager at a Participatory Program Evaluation Workshop from May 8-13, 2000 in Dakar, Senegal. This workshop provided evaluation methods for health and development programs.
- The person in charge of the community approach and training is now responsible for quality health care.
- The person in charge of operational research has taken over monitoring and evaluation and the Child-to-Child strategy.
- The staff is very limited, technicians are at the same time managers.
- Project professional staff have received English language training.
- The administrative and financial consultant in Antananarivo took part in IEC-related meetings and activities.

A systematic analysis of the training has not been done. During MTE interviews, a few requests have been made: the two project physicians have asked for an advanced level training in Public Health, (through distance learning courses) and all personnel have requested training to improve their English skills. Available courses in the country (for example English classes), are not easily accessible to CS project employees because of the distances involved. The person responsible for the quality of health care and the Animator still need computer training.

C. SUPERVISION OF PROGRAM STAFF

After the effective implementation of the social mobilization strategy through the creation of village communicators (volunteers), the project concentrated more of its efforts on quality care and health service provision in the public sector health centers. A qualitative survey questionnaire was administered in 11 project CSBs. This survey has permitted improved planning and revision of objectives and activities so as to improve the quality of health care. The 11 CSBs have benefited from monthly supervision visits. The reassigning of physicians at the CSB level has disrupted the progress of supervision activities because new physicians unfamiliar with the project have perceived MCDI's participation as interference in SSD responsibilities. Because of this misunderstanding between the project and the SSD officials, project participation in the supervision of CSB staff has been temporarily suspended. The CS project is making efforts to align project and SSD objectives, methodologies, and work pace so that coordinated supervision of the CSBs can continue.

Part of the problem between the CS project and the SSD officials is related to the fact that the SSD does not welcome critiques provided by outside sources such as the CS project. This is a lack of understanding on the part of the SSD since the critiques are meant to point out areas in which the project could provide assistance (the SSD views them as criticisms that may get them into trouble with their MOH supervisors). Also, during the original planning of project activities, the SSD medical inspector accepted the project's proposal to help improve the quality of health services; however, current SSD personnel do not find it acceptable for the project to evaluate their performance. In fact, the SSD medical inspector sometimes gives the impression that they do not need assistance.

D. HUMAN RESOURCES AND STAFF MANAGEMENT

The CS project field staff includes a project manager, an IEC officer, an EPI officer, a health information officer, a training and quality care officer, an administrator, a driver, a janitor, and a guard.

The CS project workplace is well-known throughout the district for facilitating communication between colleagues both vertically and horizontally. Weekly staff meetings take place to review activities and schedules, and to solve problems identified by staff members. Once a month, a more formal staff planning and review meeting takes place. There is remarkable team spirit and feeling of pride among MCDI Madagascar staff members which has been openly expressed by all.

Project staff are provided with opportunities to improve their professional skills, capacity to analyze, and to promote public health principles. This has also influenced the project's partners (community, associations, etc.) in the project area. Some of the staff, the physicians and the IEC coordinator in particular, have benefited from specific training workshops that have enhanced their capacities and will provide long-term professional benefits.

Areas in which the project recognizes the need for improvement include personnel management and the implementation of a policy manual, to be used internally within the project as well as with community partners. It is also recognized that regular formal evaluations of project personnel should be instituted to help redirect staff members, identify areas in which additional training should be provided, and adapt tasks to revised workplans.

Because project staff members are not from Betioky and live away from their families, and because Betioky does not provide many sources of distraction, staff members spend many hours working. It is common for staff to also work at night. Although the balance of workloads appears to be acceptable among staff members, the project needs to address their isolation and look into possibilities of improving contact between them and their families. The only apparent staffing difficulty involves the administrative assistant in charge of managing the office in Antananarivo. She is currently hired on a consultancy basis working 6 days per month and is responsible for finalizing and delivering financial reports to headquarters, procurement, and other tasks that can only be done in the capital. She feels the time allocated to her by the project to accomplish these tasks is insufficient. She also feels that she should be allocated some of the same benefits, such as health insurance, as other staff members.

There is also one Peace Corps volunteer assigned to the CS project. She began working in the role of animator in the first quarter of 2000 and will spend two years with the project.

E. FINANCIAL MANAGEMENT

At the corporate level, MCDI has an automated financial management system that is overseen by our Chief Financial Officer, regularly audited, and has been approved for use to manage USG awards by our cognizant technical agency. MCDI maintains all the appropriate accounts, letters

of credit (USAID and private), and other tools and systems to receive and manage Federal funds efficiently. All MCDI offices and projects use an accounting code system to report and reconcile expenditures and budgets.

In the DC office, MCDI operates two petty cash accounts. Only the Director and the Administrator authorize payments. All accounts payable and receivable are reviewed and entered into an automated systems and later merged with the main corporate system (in Maine).

In the field office, MCDI operates a modest local expenditure account. Only the Project Manager and Administrator authorize payments. Comprehensive financial reports are routinely compiled and forwarded from the field office to the DC office where they are reviewed; if necessary, queries are sent to the field for clarification.

The DC office assists the field office in managing its budget effectively and prepares USAID reports. Financial planning, re-programming, and other budget-related actions are undertaken jointly between the field, DC, and headquarter's offices.

F. LOGISTICS

Most of the equipment currently used by the CS project comes directly from the U.S., largely due to the lack of availability of certain equipment in Madagascar. After two years of use, however, the condition of the equipment has deteriorated and has been difficult to maintain or repair. In particular, the project has logistical problems related to vehicles and computers. There is a serious need for procurement of additional equipment to replace poorly functioning equipment. This will likely require a reevaluation of the project budget.

Vehicles Of the two vehicles in use by the CS project, only one, a Toyota HiLux acquired in December 1999, currently functions. The other, a Jeep Cherokee acquired in May 1997, became practically irreparable after only 50,000 km. It has been determined that the engine cannot be repaired and must be replaced. Access to only one vehicle for all project activities has created severe limitations and logistical difficulties.

Computer equipment Additional computer equipment is sorely needed. At the beginning of the project, a number of computers were sent to the field office, but quickly fell into disrepair. Two new computers and two printers were purchased in Madagascar and function adequately, but are insufficient in light of the number of people working for the CS project. (The home office is sending three new computers to the field.)

Audio-visual equipment Both the camera and the VCR have been out of service since 1999. The TV and the camcorder are in good condition. Two radio tape recorders are acoustically inadequate for outdoor use.

Other A generator purchased in Madagascar has been out of service since February 2000 (overused during the time when electricity in Betioky-Sud was working only in the afternoon). A photocopier sent from the US in 1998 is out of service. A photocopier bought in Madagascar

in 2000 is in good condition. The question of computer equipment repairs should be dealt with since all repairs are taken care of in Antananarivo which is quite time consuming. At the moment, telephone service is not available although it appears that a telephone system will be installed in Betioky soon, thus allowing for improved communications.

G. INFORMATION MANAGEMENT

The CS project uses the MOH Health Management Information System (HMIS) that is in place in the CSBs and which is supervised by the SSD. It is formally prohibited by the MOH to create and implement a parallel HMIS, so the project has little choice in the kinds of data available to it. The SSD compiles the data collected from the CSBs and then passes this information on to the project. At one time, the project used this data to make planning decisions concerning support of the CSBs. However, due to a report prepared by the CSP in 1999 that emphasized some negative data concerning the SSD, the district medical inspector has refused to provide HMIS data to the project. As a result, the project has no access to a data collection system at present and recognizes the urgent need to resolve the difficulties between the project and the SSD as soon as possible. The project should propose to the SSD medical inspector that all reports be first submitted to him and discussed together before finalization and submission to higher authorities. The project will propose providing further training to the person in charge of the HMIS system at the SSD.

The data available from the MOH HMIS does not cover all of the indicators used by the project. The CS project would like to have more data available through the MOH HMIS, however it will require negotiations at the regional and central levels of the MOH for permission.

H. TECHNICAL AND ADMINISTRATIVE SUPPORT

MCDI does not have a regional office in southern Africa to support the project in Madagascar. However, the Home Office Child Survival Support Team (CSST) comprised of the Child Survival Coordinator and other technical support staff provided on-going technical backstopping to the project. This included the transmittal of regular technical updates salient to the project's interventions; for the most part these updates were based on materials obtained from sources such as: the CORE Group, CSTS, BASICS, UNICEF, etc.

The Home Office GIS technician prepared project maps based on GPS coordinates collected by the team. Substantial technical assistance was provided by the MCDI Health Economist who prepared the research protocol and designed the financial management processes and instruments for the Community-based Financing Initiative. In addition to an initial field visit to launch this initiative, the Health Economist made a follow-up supervisory visit.

The CSST, which also includes the administrative support team, coordinated the placement of a Yale Medical School intern who worked on the Non-Malaria Fever study being undertaken by Yale University Medical School in collaboration with MCDI. Administrative support was also provided to permit the training of the Field Program Manager in the Participatory Program

Evaluation approach and methodology conducted by the CSTS project in Dakar in May 2000. The CSST similarly coordinated the field research carried out by the Yale study team, MCDI field staff and, MOH personnel.

IV. CONCLUSIONS AND RECOMMENDATIONS

Recommendations

IMMUNIZATION

- The CS project should support the CSB to enhance their outreach immunization capacity and to increase registration of all the newborns in the area.
- The CS project should assist in improving the collaboration process among the ASBs, Health Volunteers, mothers and communities in general, whether in health education or identifying and referring defaulted children.
- The project should support the SSD in the execution of strategic planning activities for EPI and jointly define a collaboration protocol between the SSD and CS project regarding EPI (and other activities).
- The Health Volunteers should be more active in community mobilization to improve the coverage of TT vaccination of WRAs and pregnant women. The CS project, the SSD and the communities should evaluate other approaches besides immunization diplomas and flags as incentives to improve EPI coverage.
- The SSD should take more responsibility in programming, implementing, and supervising the EPI activities.
- The EPI coordinator at the SSD level should be trained in cold chain maintenance.

BREAST-FEEDING

- The EOP objective for children less than 6 months who are exclusively breast-fed should be raised from 25% to 60%. The remaining two breast-feeding objectives should be retained.
- The project should increase its efforts to develop and better adapt IEC materials to the current situation, provide BF refresher training to community health volunteers, train community-based health agents on the importance of breast-feeding during diarrheal episodes, and strengthen the community monitoring of children with diarrhea.

- The project should encourage and promote positive deviant mothers who can testify to the benefits of improved breast-feeding practices for their children. This can be done through broadcasting testimonies on rural radio and publishing testimonies in newsletters.
- The project should increase the number of CHVs and their activities in the project zone, with particular emphasis on improving their capacity to provide counseling on breast-feeding. A guide for the volunteers should be developed to better define their roles and responsibilities.
- The project should research ways in which to implicate midwives and traditional healers in the promotion of breast-feeding. Midwives, mothers, and grandmothers who attend to childbirth should also be targeted to promote breast-feeding immediately after birth and given responsibility to put a newborn to the mother's breast during the first hour after birth, as is currently the case during births attended by trained health agents.
- The project should reinforce nutritional education activities for breast-feeding mothers and for weaning practices. A cookbook to promote local products, for mothers and children being weaned, can be developed in collaboration with LINKAGES, WFP, and SICALINE. The project should also work with a dedicated nutritionist and the Vemima Association which has experience in community nutrition and cooking demonstrations, as well as with food assistance organizations to look into the possibility of nutrition rehabilitation for breast-feeding women in need.

DIARRHEAL DISEASE

- The project should strengthen its support to the CSBs, especially in the improvement of the drug management system.
- The project should increase health volunteers' responsibility in ORS distribution at the community level in order to have an increased impact on the household management of diarrhea.
- The project should strengthen the cholera intervention team created with the assistance of the project so that it can quickly react to cholera outbreaks.

CHILD SPACING

- The project should train newly arrived staff using an on-the-job training approach and a self-training process recommended by the MOH. It should also analyze the results of this MTE with the MOH at the regional and district level. One person responsible for training in the SSD should be paired with the project quality assurance coordinator. Also, the project should work with the MOH (SSD and regional) to study the feasibility of providing long-term FP methods (vasectomy, IUD, etc) in hospitals.
- The CS project also needs to train the volunteers and the ASBCs in basic knowledge related to the long-term FP methods for diffusion in the population. The VCSs and other health

personnel should be monitored during these IEC/BCC activities and they should receive support to improve their skills and their use of IEC materials.

- The IEC Project/BCC strategy should also include interventions targeting men (fathers) so that the decision of child spacing and FP is the result of a common agreement in the couple. The intervention will then have a greater impact. It has also been suggested that some IEC/BCC messages related to FP should also target older women (who can influence the decision making process) and adolescents.
- The CS project should analyze with the MOH the possibility of providing some training in basic first aid (within the context of IMCI) and distributing chloroquine and some other essential drugs at the community level. The project should work with the SSD in order to prepare a protocol where the links between the project and SSD are better defined.
- The project, along with the MOH, should prepare guidelines for the ASBCs and ASBs which would clarify the role of the volunteers in the FP planning strategy. It is also recommended that the training modules for community partners should be prepared with the participation of the VCS/ASB/ASBCs and approved by the SSD. A component of training in STIs and sterility should also be included in the training.
- Finally, the project should work with the MOH (SSD and regional levels) to help in the definition of a process that will allow the ASBCs to keep a percentage of their sales revenues, or define a similar incentive process.

INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS

- There is a need for MCDI to work closer with the MOH at the regional and the district levels in order to establish a consensus in certain IMCI concepts, including supervision, financing of referral centers, outreach activities and integration with EPI. In addition, MCDI needs to support the MOH in identifying lessons learned from the IMCI implementation in Betioky-Sud, lessons which could then be applied at the national level.
- The home office should continue to maintain regular IMCI backstopping support to the field team; it recently provided updated information on community-based IMCI to enhance the project's BCC interventions.

COMMUNITY FINANCING OF HEALTH SERVICES (CREDIT-INSURANCE PLAN)

- It is recommended that a protocol agreement be established between the SSD and CIP.
- It is recommended that community ownership of the CIP should be emphasized.
- It is recommended that constant follow-up and refresher courses be given to the CIP management team.

**Medical Care Development International-Mid-term Evaluation
Report Child Survival Project Betioky-Sud Madagascar**

- The CIP should consider expanding the funding to cover other sectors (agriculture, economy, etc.) and include a strategy of health promotion through IEC activities targeting CIP members.
- It is recommended that CIP management procedures be improved.
- It is recommended that CIP offices be restructured.
- An inventory of potential CIP sites is about to start and should be evaluated by the SSD and USAID for success. The Antohobato SSD is a good example to consider.

CROSS-CUTTING APPROACHES

- It is suggested that the community volunteers organize themselves in an association; this would encourage their continued existence even after the end of the CS project. Local authorities should be more involved and allocate funds for outreach activities. MCDI can serve as an advocate and help support this initiative.
- The project should consider organizing the community health volunteers into associations and provide them income-generating activities assistance to help cover the costs of the associations and to serve as an incentive strategy.
- Evaluate the possibility of replicating the community credit experience of Ankazonaga-ouest in other health sectors to improve the financial accessibility to care.
- Strengthen the collaboration between health volunteers and ASBs, as well as the participation of local leaders.
- Extend the training in health education and the Child-to-Child Approach in schools to all teachers and establish a supervision and refresher training plan.
- MCDI headquarters and the CS project should seek out additional IEC materials and adapt them to the cultural setting of the project intervention area. At the same time, the IEC program should be expanded using all of the CSP partners and throughout the entire district.

GENERAL RECOMMENDATIONS

- The CS project needs to better understand that the SSD Director is the overseer of health activities in the district and is the representative of the MOH and the Government of Madagascar. All health-related interventions need to be approved by the director. This can be promoted by encouraging the SSD to include the CS project in its organizational chart and health development plan, and by MCDI in proposing an official document that cites the initiatives and activities permitted by the MOH.
- MCDI should consider the possibility of assigning a technical staff member to Antananarivo and Toliary to promote additional political dialogue and access to technical innovations and

to encourage collaboration and dialogue with other USAID projects (JSI, CARE, CRS, LDI, PACT).

- MCDI needs to make sure that equipment and means of communication (vehicles, computers, photocopiers, telephone, etc.) are well maintained, well managed, and available for use.
- The project should prepare a single action plan that includes the tasks of all associated partners, budgets for various activities, the source of funding, and the location of activities, as required by the MOH.
- The CS project should work with the SSD to develop a protocol to facilitate the transfer of responsibilities when there is a change of personnel in the health centers.
- The SSD should include the CS project work plan in their health development plan and distribute to all partners.
- Develop and institutionalize a development partnership body or structure that will guarantee stability in the exchange of information and maintenance of partnership activities regardless of the turnover of individuals, whether at the government, MOH, PVO, or community level. It is recommended that this body be under the responsibility of the Sub-Prefect.

Community-based groups, associations, and structures that are partners to the CS project should be further institutionalized and encouraged to expand their base of activities beyond the child survival program. Additional areas in which they can intervene are the environment, gardening, household management, etc. Capacity strengthening of these partners needs to be based on capacity assessments.

Conclusion

This Mid-Term Evaluation of the MCDI Betioky-Sud Child Survival Project in Madagascar has concluded that most of the objectives defined in the Detailed Implementation Plan have been met or are on the right track. (The sole exception is the level of tetanus toxoid vaccination of mothers which has actually declined.) Factors that contributed to this progress include a successful community approach that uses community members as volunteers trained by the project in health education and promotion and a dynamic integrated cross-sectorial approach. Project communities have reacted favorably to the CS project initiatives despite the fact that the strategies and activities need to be further refined and strengthened. Those initiatives taken by the project to improve the availability and accessibility of health care are to be commended.

Still, the organization and improvement of available health services has been hindered somewhat due to some misunderstandings between the SSD and the CS project. The relation between community health volunteers and health agents requires additional attention so that they and the communities better understand the roles and responsibilities of each. To make the health centers the center of community activities remains the most important challenge to the project. The future success of project interventions cannot rely only on the level of training or supervision of health agents, nor on the reorganization of health centers offering quality services. The most

**Medical Care Development International-Mid-term Evaluation
Report Child Survival Project Betioky-Sud Madagascar**

important steps that the project must take are to re-evaluate and renegotiate its partnership with the District Health Services as a technical support organization and make extremely clear the roles and responsibilities of each. The participatory evaluation strategy used during this midterm evaluation has already contributed to improving the relationship between the SSD and the project. SSD authorities developed a much greater appreciation of the role of the MCDI's CS project and have expressed much enthusiasm towards resolving previous misunderstandings and taking full advantage of the project's presence. The project should also be covering the entire district rather than only part of it. The project should also align itself exactly with IMCI and reproductive health guidelines established by the MOH at the national level.

The CS project should put more effort into assessing and consolidating its successes for sustainability by encouraging the institutionalization of community partner organizations, reinforcing the cross-sectorial approach, and capitalizing on the success of the credit-insurance financing system. Special praise should be given to the CS project staff for the efforts they have made towards the socio-economic development of Betioky-Sud District beyond the call of the original program design, such as the creation of the first private radio station in Betioky. The staff should also be commended for the fact that they all live away from their families and have had to make considerable social adjustments to make the project a success.

Over the next two years, the Child Survival project should set as one of its principle tasks the transferring of ownership of activities and accomplishments to its partners and the communities. MCDI will continue to serve as a technical support organization in Betioky-Sud and will be the source of change and development in the area.

V. RESULT HIGHLIGHT

The Child Survival Project in Betioky-Sud District, Madagascar, provides technical support to the Betioky-Sud District Health Services (SSD) in the fields of immunization, child spacing and reproductive health, breast-feeding, diarrheal diseases, and IMCI. The program also supports crosscutting approaches such as social mobilization, behavior change communication, community financing, and strengthening of capacity building and program management.

An important dimension of MCDI's Child Survival Project is the Community Financing Initiative that incorporates an innovative cost recovery component. The design and implementation of this component calls for communities (initially only in Ankazomanga Ouest), to play a leadership role in planning for the financial sustainability of their Community Health Centers (CSBs). Executive Committees of the Community Health Associations (CHAs) are responsible for working with CSB staff and District Health Service supervisory personnel to develop budget and service pricing proposals that are reviewed and voted upon by a General Assembly of the CHA. The CHAs are made up of representatives of Management Committees (MCs) from each participating fokontany (villages). Executive Committees from each MC are responsible for (1) enrolling members in the Plan; (2) managing their village's share of the collateral fund; (3) reimbursing the CSB accounts (managed by the CHA) at the end of each month for the total cost of services rendered to members from their village; (4) collecting retrospective payment from each treated on a credit basis during the preceding month; and (5) enforcing member compliance with the terms of the Plan.

The goal of this plan is to improve and provide quality health care access to the target population that does not usually have ready monetary means for immediate use. Its objective is to provide health services using a credit scheme. The use of the plan has been steadily increasing since it was introduced at the same time as a new CSB was opened in 1998. From January 1999 until May 2000, target population membership to the CIP increased from 18% to 60% and disbursements of credits were steadily growing. Between July 1999 and May 2000, 10% of the population served by the CSB benefited from the plan. This success is mainly due to the fact that the population is more aware of the benefits of the plan and more confident in the system. An evaluation of the health financing plan found that the presence of this system is having a positive impact on health services utilization even during the worst economic periods and in the quality of services provided.

The credit plan is a successful initiative as it allows better quality health care access to the population of Betioky-Sud district. This is linked to a growing leadership role taken by the community. However, some changes need to be made. Parameters used to determine the exact amount of premiums and credits need to be re-formulated. The main objective is to increase the fund at the central level. It is also advisable to either increase the actual amount of the premium or decrease the time allowed for reimbursement in order to maintain a viable fund. Strengthening of the management procedures and dissemination of health messages through CIP participants is also strongly recommended.

VI. THE ACTION PLAN

VII. ANNEXES